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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/591,625

07/30/2007

Seok-Heon Cho

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THE FARRELL LAW FIRM, LLP
290 Broadhollow Road
Suite 210E
Melville, NY 11747

EXAMINER

CHEN, SHIN HON

ART UNIT

PAPER NUMBER

2431

MAIL DATE

DELIVERY MODE

07/30/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,625	Applicant(s) CHO ET AL.	
	Examiner SHIN-HON CHEN	Art Unit 2431	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-45 have been examined.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-45 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims disclose predetermined time and second predetermined time, whereas the predetermined time is less than second predetermined time and key request is triggered upon expiration of second predetermined time. However, the claim does not explicitly disclose whether the key is received in response to the request for new key or independent of the key request triggered by second predetermined key. Therefore, applicant's is advised to disclose the relationship between the request and response by base station.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (hereinafter AAPA) in view of Kruegel U.S. Pub. No. 20050047598 (hereinafter Kruegel) and further in view of Newkirk U.S. Pub. No. 20050047600 (hereinafter Newkirk).

6. As per claim 1-45, AAPA discloses a method of rekeying traffic key in 802.16 WMAN where keys are distributed unilaterally through key request and key response messages between subscriber station and base station (AAPA: Specification pages 2-3). AAPA does not explicitly disclose multicasting or broadcasting rekey materials from base station to a group of subscribers by keeping track key schedule/cryptographic period so as to allow the base station to automatically update keys for a group of subscriber stations. However, Kruegel discloses those limitations (Kruegel: [0026]-[0027]). It would have been obvious to one having ordinary skill in art to rekey subscriber stations through multicast messages in radio network because they are analogous art. Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to combine the teachings of Kruegel within the system of AAPA because it improves the efficiency of key management.

AAPA as modified does not explicitly disclose encrypting traffic key during rekey process. However, Newkirk discloses encrypting rekeying traffic key to protect key material (Newkirk: [0030]). It would have been obvious to one having ordinary skill in the art to protect rekey materials from interception by using key-encryption method because they are analogous

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art. Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to combine the teachings of Newkirk within the combination of AAPA-Kruegel because it is well known in the art to protect key materials from interception by encryption.

AAPA does not explicitly disclose the specific steps of requesting key upon expiration of predetermined time at subscriber station and receive key prior to the request. However, the examiner has raised issue regarding the new limitation as it does not clarify the relationship between key request and key delivery based on predetermined and second predetermined time. Therefore, the new limitation is not considered as this time as it does not present the claims in better form to expedite prosecution.

Applicant is welcome to contact the examiner to reduce matter and focus on inventive concept to expedite prosecution.

Response to Arguments

7. Applicant's arguments filed 6/22/10 have been fully considered but they are not persuasive.

The amendment raises issues regarding enablement because the key delivery happens prior to second predetermined time that is used to request key. Therefore, applicant is advised to clarify the function and relationship between key request and delivery that depend on predetermined and second predetermined time.

On the other hand, claims 1, 21, and 39 appear to broadly focus on rekeying process without focusing on the inventive step taught by applicant. Therefore, applicant is advised to

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amend the claims to focus on relationship between first and second predetermined time and the key request and delivery between base and subscriber station.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHIN-HON CHEN whose telephone number is (571)272-3789. The examiner can normally be reached on Monday through Friday 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shin-Hon Chen
Primary Examiner
Art Unit 2431

/Shin-Hon Chen/
Primary Examiner, Art Unit 2431